

MODIS Technical Team Meeting
Thursday, February 13, 2003
Building 33, Room E125

Vince Salomonson chaired the meeting. In attendance were Skip Reber, Michael King, Bob Barnes, Steve Kempner, Dorothy Hall, Shaida Johnston, Ed Masuoka, Robert Wolfe, Eric Vermote, and Jack Xiong, with Yolanda Harvey taking the minutes.

1.0 Upcoming events

- Data Products Review March 10-11, 2003
- Ocean Color Meeting, April 15-17, 2003, Miami, Florida, USA.
- IGARSS 2003, July 21-25, 2003, Toulouse, France (abstracts deadline past).
<http://www.igarss03.com/>
- 10th International Symposium on Remote Sensing by The International Society for Optical Engineering (SPIE). September 8-12, 2003, Barcelona, Spain (abstracts deadline past). <http://www.spie.org/info/rs>

2.0 Meeting Minutes

2.1 General Discussion

Salomonson reported that he received a .pdf version of the data products handbook, and that he can distribute it to people so that they can check their sections.

2.2 Instrument Status

Xiong reported that most MCST analysts will be moving their offices to the Aerospace Building over the weekend of Friday, February 21st, 2003. Salomonson noted that Alice Isaacman had wondered whether MCST would have a high data rate line to GSFC, and Xiong assured him that there wouldn't be a problem, since such a line already exists.

Xiong also noted that he now has an office at GSFC in Building 33, room G220. So as to facilitate work with the MCST, he will also have an office at the Aerospace building where he will probably spend most of his time.

2.2.1 Terra MODIS

Xiong reported on the Terra Deep Space Maneuvers coming up in March and April. The first maneuver, originally scheduled for March 26th, will be postponed for a couple of days, probably to around the 28th. The second maneuver, scheduled for April 14th, will not likely be delayed, since it involves lunar observations and coordination with SeaWiFS for this event. The lunar measurements are going to be made at the same time to avoid differences in the measurement results since the brightness of the moon changes over time.

Xiong also reported that MCST has adopted regular 2-week M1 updates for Terra MODIS.

2.2.2 Aqua MODIS

Xiong reported that the flight software team has not yet come up with a final version of a software patch for the command drop problem on Aqua. A meeting will be held to

review the patch when it's ready. However, this is not a major issue, since all the routine operational commands are stored onboard.

Xiong reported that the SRCA anomaly analysis showed that one of the 10-watt lamps is responsible for some of the changes they have been seeing. He is working on getting more pre-launch testing information with SBRS to determine how much life is left on the other lamps. Xiong noted that if the problematic lamp becomes inoperative, there is a replacement lamp that can be used. This only impacts bands that need the full 30-watts that all three lamps operating together would provide.

2.3 DAAC

Kempler reported that the DAAC is at the leading edge in processing (i.e., they are very close to real time), though they have some gaps to fill, but over all things are going very well. Terra forward processing was at 3.89x, and Aqua was at its normal 1x. They are ahead of the reprocessing schedule, having completed the year 2000 as of Tuesday, February 4, 2003, which brings them up to 41% complete.

Kempler reported that he was asked what would happen if there were no operators in attendance at the DAAC were a problem to occur. To answer the question, he said he went through the operator logs for January and was amazed at how much the operators do to keep the system performing so well. Esaias noted that the operators probably keep the system running at 2x higher than it would without constant maintenance, and Kempler agreed.

2.4 MODAPS

On the subject of geolocation, Wolfe reported that he had a meeting today (February 13, 2003) with the spacecraft and flight operations people, and reported that they have decided to fix the J2000 (ephemeris, attitude, and star charts), and can probably do so by early March 2003. They are currently in the process of testing out the fix using their simulator. Wolfe said that he asked them if they could get the fix done by March 5th (right before a 32-day cycle starts), but they weren't sure that they could do it by that date. Once the change is made, we will start getting good attitude data. There will be some changes made to the "dprep" so that we can look at the data previous to the fix, and some new versions of orbit and attitude ESDTs may be needed, but the important thing is that the change is going in.

Salomonson noted that we need to start thinking about reprocessing Aqua data, and Johnston suggested that we first decide which improvements need to be made during reprocessing. Salomonson agreed, and suggested that one of the big fixes would be the compensation for the inoperative nature of Band 6. This effort is necessary for several of the cloud and snow products.

Wolfe reported that he is going to be working on a science test of the geolocation fix, and will be performing the test on a data day to be chosen soon. This will provide ephemeris data, which will allow a test of the fix for geolocation reprocessing, and will yield a whole day of data showing the improvements from the change. Salomonson noted that it won't be long before there is a full year of data. He said that we also need to quantify the effects of the larger MODIS Aqua misregistration (relative to Terra MODIS) between the warm and cold focal planes. Johnston noted that this is also an issue of

reprocessing the Land/sea Mask, so it might be worthwhile to include that data in the testing. Wolfe replied that Boston University is encountering some difficulties with the Land/sea Mask. Esaias suggested holding a telecon to discuss the changes to the Land/sea Mask, since it is a three-discipline product, and he indicated that the people at Miami are very interested in how it's progressing. Wolfe agreed that they should arrange something.

Masuoka reported that MODAPS is putting data out within a day of receiving it, which is a reduction of three days (previously a 4-day gap).

Masuoka reported that MODIS data is being used in a lot of operations, which is a very good sign. Salomonson noted that he believes the US Navy is using MODIS routinely, and Masuoka added that he recently read a couple of articles discussing MODIS' uses. One was an article about using MODIS to track the Hanta Virus. Another article discussing MODIS favorably appeared in the Government Computer News.

Masuoka reported that he sent an email to the EDC saying that MODAPS will be happy to provide browse for the EDG, and that he wants to do one granule per product at first, then start getting more advanced. So, there will soon be Level 2 granules coming out of MODAPS, and they shouldn't affect the ingest rate. Salomonson and Hall both noted how good this will be for users' access to MODIS data.

2.5 Oceans Discipline

Esaias reported that Oceans held a very successful workshop in the beginning of February, and that all the papers and presentations from the workshop are now available on the MODIS Oceans website (<http://modis-ocean.gsfc.nasa.gov/>) under the Presentations section. At the workshop, he explained the issue and fix of the striping in the forward processing stream of Terra MODIS data. This change will make Terra MODIS data much more valuable to weather data users and many others, and this is something that we can show to Headquarters as an example of our progress and usability.

Esaias reported that SeaWiFS will be coordinating with Terra MODIS on the Deep Space Maneuvers. This will help the Ocean Color product to improve via comparison against a standard gained from both sets of data.

2.6 Atmospheres

King reported that the British Meteorological Office is looking at MODIS data, and they observed an unusually large number of ship tracks off of the coast of France on January 27. The MODIS Rapid Response system produced a very nice image of this occurrence from both Terra and Aqua data on this day, and King reported that his group has done an analysis of the scene's optical thickness and effective particle radius. MODIS tends to pick up a lot of these instances of ship tracks, and this is an example of the algorithm working quite well, with retrieved drop sizes smaller in the ship track-modified clouds than in the nearby uncontaminated clouds. This image will likely appear on the MODIS homepage (modis.gsfc.nasa.gov) and on the Earth Observatory site (earthobservatory.nasa.gov). King also noted that this could be a good case study for the upcoming Data Products Review.

King reported that the data products calendar his team has been working on is moving well. Reprocessing is now partway through October of 2000, which is a month of data that was never before released publicly. King also noted that they are working on daily and 8-day Level-3 products. Salomonson asked if everything in Atmospheres Collection 3 is validated except MOD06, and King stated that this was correct, except that all of the Level-3 results had been categorized as provisional since not all input (especially cloud data) were still at provisional quality. All atmosphere algorithms in collection 4 are designated as validated at stage 1 or higher.

3.0 Action Items

3.1 New Action Items

None.

3.2 Old Action Items

3.2.1 King and Kempler to work together on getting ESDTs for the new Atmospheres L2 data product.

Status: Open.

3.2.2 Kempler to coordinate with Oceans group on creating documentation for the DAAC on the new Oceans L1A data subsets.

Status: Open.

3.2.3 Wolfe to contact Herring about the shopping cart feature for the Earth Observatory website.

Status: Open.

3.2.4 Tech Team to further discuss TRW using MODIS data for validation of the NPP/NPOESS production process.

Status: Open.